

Abstract

Narrowband interference can seriously degrade the overall
5 performance of a communications network without significantly damaging a
large percentage of the communications network's transmissions. In a
single tone communications network, narrowband interference can reduce
the overall signal-to-noise ratio to a level such that a receiver can no longer
accurately decode the received transmission. However, the receiver's filters
10 and equalizers often can filter out the effects of the narrowband interference
and the receiver can accurately decode the received transmission if the
receiver can restart the decoding at the point when the narrowband
interference began interfering with the transmission. A technique using
sequential decoding with backtracking and adaptive equalization permits the
15 receiver to adapt to the presence of the narrowband interference and
backtrack the decoding to a point prior to the interference.